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Arora, S, Burner, E, Terp, S, Lam, C, Nercisian, A, et al. **Improving Attendance at Post-Emergency Department Follow-up Via Automated Text Message Appointment Reminders: A Randomized Controlled Trial.** *Academic Emergency Medicine.* 2015;22:31-37.

Clinical Question: Can text messaging using mobile technology increase follow-up rates in ED patients?

Background: Pts are frequently given specific instruction for follow-up appointments after ED discharge. Adherence to these follow-up visits has been shown to improve health outcomes, decrease ED returns, and reduce malpractice risk. Numerous reasons for missing appointments are given but simply “forgetting” is common. Case management, mailed reminders and phone calls have been shown to improve attendance to outpatient f/u but is costly and labor-intensive. Cellular phones have become common amongst all socioeconomic classes and text messages are currently more common than the number of phone calls to each individual subscriber. This trial aimed to assess the effect of appointment reminders via text on follow-up apt attendance.

Methods: This was a randomized control trial. Study was conducted in an ED in LA County. Eligible patients were >18 yo, owned a text-capable cell phone, were able to read text messages and had a f/u apt with the LA county health care system between 3-30 days after ED discharge. Pts were excluded if they were critically ill, admitted, did not speak or read English or Spanish or had a mobile carrier without text capabilities. All patients were given f/u apts scheduled by the ED clerk. RAs screened consecutive samples of patients daily from 8a-10p over a 3-mo period. Pts were randomly assigned to control or intervention group by a computer-generated process. The intervention group received text message reminders at 7, 3 and 1 day before their f/u apt (as applicable). Messages contained date, time, location and clinic name and were delivered via English or Spanish according to pt preference. The incurred facility cost was \$0.12/message. Pts could opt out of the study at any time by replying “stop.” RAs were responsible for entering the information into the system. Primary outcome of interest was the proportion of pts who attended their first f/u apt. Goal of the study was to detect a 10% reduction in missed apts in the intervention group. Estimated size of study would be 626 pts. Staffing constraints allowed for only 3 months of data to be collected.

Results: Over a 3-mo span of time, 2365 pts were screened and 374 pts met eligibility requirements. Groups were deemed similar according to traditional Table 1 assessment. Median time to f/u was 7 days. In the ITT analysis 70.2% of pts overall attended f/u in the intervention group and 62.1% in the control (diff 8.2%, CI -1.6% to 17.7%). A separate per-protocol analysis was also conducted. 46 pts from the intervention group were excluded b/c they did not receive a text message or opted out. Thus, in the per-protocol analysis the f/u rate was 72.6% in the intervention group compared to the 62.1% control (diff 10.5%, CI 0.3% to 20.8%). In a separate analysis of the excluded pts from the intervention group, their f/u adherence was similar to the control group at 62.2%. Upon bivariate analysis it appears the language spoken and appointment type are independently significant variables. Attendance rates in English speakers for both f/u apt types were significantly higher in the intervention group (primary care 58% v 46% & specialty care 84% v 61%).

Discussion:

This RCT demonstrated a statistically significant increase in the attendance rate for f/u apts in the intervention group; albeit barely statistically significant only in the per-protocol analysis. In subset analysis it appears to be most significant in the population that is English speaking scheduled for specialty care. The article discusses that this topic has been previously studied, and in fact, a Cochrane review was conducted in 2013 evaluating 8 RCTs. The authors determined that there is low-mod evidence for text messaging to improve f/u attendance. It appears that this study was underpowered but that the data does trend towards improvement even in the ITT analysis. A limitation of this study may be how generalizable it is. Given that the most frequent reason for missed apts is “forgetfulness”, I suspect that this would be very effective in most regions as this human trait is not unique. Given that the facility cost is also relatively cheap, this may be a very viable process for many institutions.
